



# in-4716

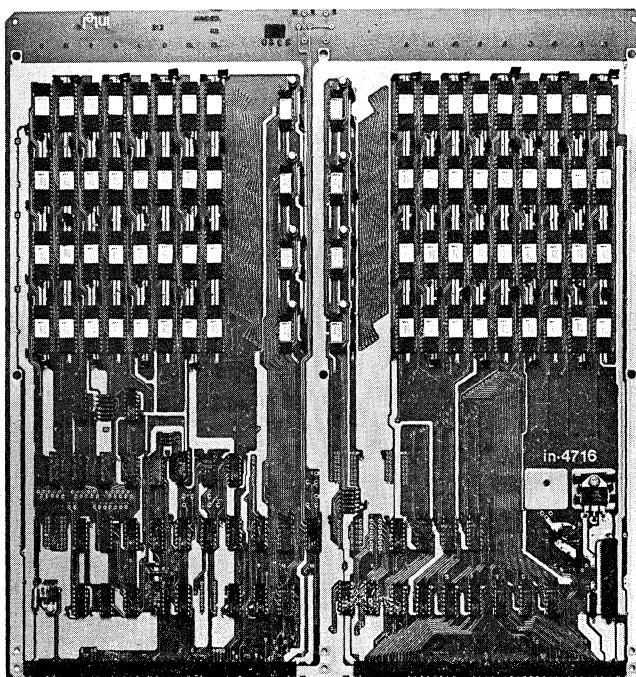
## 7/16 ADD-IN SEMICONDUCTOR MEMORY

The Intel in-4716 is designed to be plug-to-plug compatible with the Interdata® MODEL 7/16 BASIC Minicomputer. The in-4716 consists of one printed circuit card which contains a 16K word by 17 bit memory storage area, plus all control, refresh and interface logic needed to operate the memory unit.

The Intel 2107B 4K dynamic RAM is utilized in the in-4716, thereby providing

non-destructive data read out, high density and high reliability all at a very attractive price.

The worst case active power consumption for the in-4716 is 36 watts which is less than half that of the core memory it replaces. This allows wider operating margins on the power supply, as well as a cooler running overall system.



### in-4716 FEATURES:

- Low Cost Memory
- Fast Cycle Time
- Low Power Requirements
- High Reliability
- Module Interchangeability
- Modular Expandability
- Compact Size
- Single Board System
- Byte Operation
- Address Select Switches

## SPECIFICATIONS

### Capacity:

8192, 12288 & 16384 words. Expandable to 32768 words by addition of a second memory card.

### Word Length:

17 bits (including parity)

Cycle Time: One Microsecond

Access Time: 300 nanoseconds

### Dimensions:

Memory Board	14.88 Inches High
(16K x 17)	15.38 Inches Deep
	0.40 Inches Wide

### Operational Mode:

Clear/Write  
Read/Restore  
Refresh

### Interface Characteristics:

#### TTL Compatible

#### Data Input:

Memory Data 00-16 (MD000-160) 17 lines  
16 lines data, 1 line (16) parity

#### Data Output:

Memory Strobe 00-16 (MS000-160) 17 lines  
16 lines data, 1 line (16) parity

#### Address Input:

Memory address 00-14 (MA000-140) 15 lines

#### Control Signals:

All control lines are single-ended

#### Standard Input Lines:

Enable  $\phi$   
Access Control  $\phi$   
Early Read  $\phi$   
Temperature Sensing A

#### Standard Output Lines:

Request  $\phi$   
Access Control  $\phi$   
(to other devices)  
Temperature Sensing B

### D.C. Power Requirement:

	Selected	Unselected
Voltage	Current (Max.)	Current (Max.)
+ 15.0V	1.3 Amps	0.2 Amps
+ 5.0V	3.0 Amps	3.0 Amps
- 15.0V	85.0 Milliamps	85.0 Milliamps

#### Regulation

$\pm 5\%$   
 $\pm 5\%$   
 $\pm 5\%$

### Environment:

Temperature: 0°C to +50°C operating ambient  
-40°C to +125°C non-operating

Relative Humidity: Up to 90% with no condensation

Altitude: 0 to 10,000 feet operating  
Up to 50,000 feet non-operating

### Refresh:

Refresh cycles are requested by the memory which time out intervals of 30 microseconds,  $\pm 10\%$  (i.e., 1/64th of the memory retention time).

The Refresh cycle is initiated after the memory sends a Request signal to the processor. The next enable pulse is used to initiate a Refresh cycle, and the following ERO (Early Read signal) generates the cycle. A Refresh cycle is identical to a bus cycle, except that all memory chips on the memory card are enabled at the same time.